

What is claimed is:

1. A system for providing differentiated classes of storage, comprising
a storage device having a plurality of storage locations and a logical block name space for
5 organizing the storage locations,
a performance process for partitioning storage locations into a plurality of regions providing
different levels of performance, and
a mapping process for mapping the partitioned portions of the storage locations to a selected
section of the logical block name space.

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2. A system according to claim 1, wherein:
the performance process separates the plurality of storage locations into a plurality of
categories being associated with a different level of service.

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3. A system according to claim 2, wherein:
the performance process separates the plurality of storage locations into a plurality of
categories being associated with a different RAID level of performance.

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4. A system according to claim 1, wherein the mapping process associates different
portions of the logical block name space to different respective levels of RAID.

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5. A system according to claim 1, further comprising:
a load balancing mover process for moving data between different portions of the logical
block name space.

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6. A system according to claim 5, wherein:
the load balancing mover process includes an adaptive data placement process for moving
data between storage pools to thereby improve system performance.

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7. A system according to claim 5, wherein

the load balancing process comprises an admin process for allowing an administrator to move data between different storage pools.

8. A system according to claim 1, further comprising:

5 a process for employing the storage to provide a file system service.

9. A system according to claim 1, further comprising:

a process for providing a storage volume service.

10 10. A system according to claim 1, wherein

the mapping process creates multiple storage volumes at a selected level of performance.

11. A process for providing differentiated classes of storage, comprising the steps of

15 providing a storage device having a plurality of storage locations and a logical block name space for organizing the storage locations,

partitioning storage locations into a plurality of regions providing different levels of performance, and

20 mapping the partitioned portions of the storage locations to a selected section of the logical block name space.

12. A process according to claim 11, further including the step of

separating the plurality of storage locations into a plurality of categories associated with a different level of service.

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13. A process according to claim 11, further including the step of

separating the plurality of storage locations into a plurality of categories being associated with a different RAID level of performance.

14. A process according to claim 11, wherein
the mapping process associates different portions of the logical block name space to different
respective levels of RAID.

5 15. A process according to claim 11, comprising the further step of
load balancing by moving data between different portions of the logical block name space.

10 16. A process according to claim 15, wherein
load balancing process includes moving data between storage pools to thereby improve
system performance.

15 17. A process according to claim 15, wherein
load balancing comprises allowing an administrator to move data between different storage
pools.

18. A process according to claim 11, wherein
mapping creates multiple storage volumes at a selected level of performance.

20 19. A system for providing differentiated classes of storage, comprising

a storage device having a plurality of storage locations, a logical block name space for
organizing the storage locations, and performance parameters of the storage locations that
vary across the storage device, and

25 a partitioning process for partitioning those storage locations into regions as a function
variations in performance parameters.

30 20. A system according to claim 19, wherein
the partitioning process selected a fixed set of partitions as a function of a selected

configuration of system components.

21. A system according to claim 19, further including

a performance process for associating partitions with different levels of performance, and

5 a mapping process for mapping the identified partitions of the storage locations to a
selected section of the logical block name space.